

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

U.S. Government, as represented by the  
Secretary of Agriculture

Whereas, THERE HAS BEEN PRESENTED TO THE  
Secretary of Agriculture

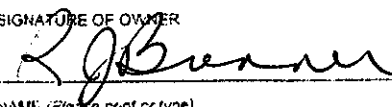
AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW. NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 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**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

<b>1. NAME OF OWNER</b> U.S. Government, as represented by the Secretary of Agriculture		<b>2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME</b> VG-3		<b>3. VARIETY NAME</b> MOON CAKE MOONCAKE (EST: 3/3/2003)	
<b>4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)</b> USDA, ARS Sustainable Agricultural Systems Laboratory Room 226, Bldg. 001, BARC-West 10300 Baltimore Avenue Beltsville, Maryland 20705-2350		<b>5. TELEPHONE (include area code)</b> 301-504-6375		<b>FOR OFFICIAL USE ONLY</b> <b>PVPO NUMBER</b> 200300169 200300169	
<b>7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)</b> U.S. Government		<b>8. IF INCORPORATED, GIVE STATE OF INCORPORATION</b> N/A		<b>9. DATE OF INCORPORATION</b> N/A	
<b>10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)</b> Thomas E. Devine (Technical Representative of ARS) Research Geneticist, Sustainable Agricultural Systems Laboratory, Room 226, Bldg. 001 BARC-West Beltsville, Maryland 20705-2350  Richard J. Brenner Deputy Assistant Administrator, Office of Technology Transfer 5601 Sunnyside Avenue, Room 4-1159 Beltsville, Maryland 20705-5131				<b>FILING AND EXAMINATION FEES:</b> \$ 3,652.00 <b>DATE</b> 2/28/2003 <b>CERTIFICATION FEE:</b> \$ 432.00 <b>DATE</b> 9/26/2003 (appl.)	
<b>11. TELEPHONE (include area code)</b> 301-504-6375	<b>12. FAX (include area code)</b> 301-504-5320	<b>13. E-MAIL</b> devinet@ba.ars.usda.gov		<b>14. CROP KIND (Common Name)</b> Soybean	
<b>15. GENUS AND SPECIES NAME OF CROP</b> GLYCINE max		<b>16. FAMILY NAME (Botanical)</b> Leguminosae		<b>17. IS THE VARIETY A FIRST GENERATION HYBRID?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
<b>18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)</b> a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			<b>19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act</b> <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
<b>20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?</b> IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			<b>21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?</b> IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)		
<b>22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			<b>23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
<b>24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.</b> The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
<b>SIGNATURE OF OWNER</b> 			<b>SIGNATURE OF OWNER</b> (Blank space for signature)		
<b>NAME (Please print or type)</b> Richard J. Brenner			<b>NAME (Please print or type)</b> (Blank space for name)		
<b>CAPACITY OR TITLE</b> Deputy Assistant Administrator		<b>DATE</b> 30 Jan '03		<b>CAPACITY OR TITLE</b> (Blank space for title)	
<b>DATE</b> (Blank space for date)		<b>DATE</b> (Blank space for date)		<b>DATE</b> (Blank space for date)	

1 Exhibit A. Origin and breeding history of the variety.

2  
3 Moon Cake is an F4-derived line from the cross OR5-12-1T X Disoy.  
4 The F2, F3, and F4 progeny of this cross were subject to selection for  
5 large seed size, tall plant growth, and lodging resistance at Beltsville,  
6 MD in 1997, 1998, and 1999. OR5-12-1T is a tawny pubescent sister  
7 line of the forage soybean Tyrone. OR5-12-1T is an F4 derived line  
8 from the cross PA4-11g1 X Ripley. PA4-11g1 was developed from  
9 the four-way cross [Wilson 6 X Forrest] X [Perry X L76-0253].  
10 Progeny from this cross were subjected to selection for forage type at  
11 State College, PA in 1982 and 1984 and at Beltsville, MD in 1983 and  
12 1985. L76-0253 is an F6 segregate of the cross Williams x  
13 PI229358.

14  
15 Moon Cake has been observed for four generations of reproduction  
16 and during the seed increase period and is stable and uniform. No  
17 variants were observed.

18  
19  
20 Exhibit B. Statement of distinctness

21  
22 Moon Cake is clearly distinguishable from other vegetable type  
23 soybeans by virtue of its exceptionally tall height - exceeding the  
24 average vegetable type by at least two feet. Moon Cake is  
25 distinguishable from conventional grain type soybean cultivars by its  
26 large seed size. Moon Cake is distinguishable from the tall growing  
27 forage soybeans Donegal, Derry and Tyrone by the larger seed size  
28 of Moon Cake. Moon Cake is distinguishable from Donegal and  
29 Derry by its gray pubescence in contrast to their tawny pubescence.  
30 Moon Cake is distinguishable from Tyrone by the earlier maturity of  
31 Moon Cake in maturity group V in contrast to the later maturity of  
32 Tyrone in maturity group VII. Moon Cake is distinguishable from the  
33 tall-growing multi-use cultivar Tara in that Tara has a tawny  
34 pubescence while Moon Cake has a gray pubescence. Moon Cake  
35 has large seed size, 27 grams per 100 seed, compared to Tara with  
36 14 grams per 100 seed.

37  
38 NOTE: 'Moon Cake' is most similar to 'Donegal', 'Derry', and 'Tyrone', (per applicant's permission  
and 'Tara'. via telephone 3/3/2003-bt)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT C  
(Soybean)**

**OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* (L.) Merr.)**

NAME OF APPLICANT(S) <u>U.S. Government, as represented by the Secretary of Agriculture</u>	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <u>USDA, ARS Sustainable Agricultural Systems Laboratory Room 226, Bldg. 001, BARC-West 10300 Baltimore Avenue Beltsville, Maryland 20705-2350 (Completed per applicant's request 3/3/2003 BT)</u>	2003 00169
	VARIETY NAME <b>Moon Cake</b>
	TEMPORARY OR EXPERIMENTAL DESIGNATION <b>VG-3</b>

**PLEASE READ ALL INSTRUCTIONS CAREFULLY:** Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g. 

9	9	9
---	---	---

 or 

0	9
---	---

) when number is either 99 or less or 9 or less respectively. Data for quantitative

plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal

Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

**A. MORPHOLOGY**

**Seed Shape:**

<table border="1" style="display: inline-table;"><tr><td>3</td></tr></table>	3	1 = Spherical (L/W, L/T, and T/W ratios < 1.2)	2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)
3			
	3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)	4 = Elongate-Flattened (L/T ratio > 1.2; T/W ratio > 1.2)	

**Seed Coat Color:**

<table border="1" style="display: inline-table;"><tr><td>1</td></tr></table>	1	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Please Specify) _____
1						

**Seed Coat Luster:**

<table border="1" style="display: inline-table;"><tr><td>2</td></tr></table>	2	1 = Dull	2 = Shiny
2			

**Seed Size:**

<table border="1" style="display: inline-table;"><tr><td>2</td><td>7</td></tr></table>	2	7	grams/100 seeds
2	7		

**Hilum Color:**

<table border="1" style="display: inline-table;"><tr><td>1</td></tr></table>	1	1 = Buff	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black
1						
	6 = Black	7 = Other (Please Specify) _____				

# A. MORPHOLOGY (Continued)

200300169

## Cotyledon Color:

☐ 1 = Yellow      2 = Green

## Seed Protein Peroxidase Activity:

☐ 1 = Low      2 = High

## Hypocotyl Color:

☐ 1 = Green      2 = Green with Bronze      3 = Light Purple      4 = Dark Purple extending to  
( 'Evans' or 'Davis' ) Bands below Cotyledon below Cotyledons unifoliolate leaves ( 'Hodgson',  
( 'Woodworth' or 'Tracy' ) ( 'Beeson' or 'Pickett 71' ) 'Coker', or 'Hampton 266A' )

## Leaf Shape:

☐ 3 1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Please Specify) \_\_\_\_\_

## Flower Color:

☐ 1 1 = White      2 = Purple      3 = White with a Purple Throat

## Pod Color:

☐ 2 1 = Tan      2 = Brown      3 = Black

## Pubescence Color:

☐ 1 1 = Gray      2 = Brown (Tawny)      3 = Light Tawny

## Plant Habit:

☐ 3 1 = Determinate      2 = Semi - Determinate      3 = Indeterminate      4 = Intermediate

## Maturity Group:

<input type="checkbox"/> 8	1 = 000	2 = 00	3 = 0	4 = I	5 = II
	6 = III	7 = IV	8 = V	9 = VI	10 = VII
	11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

## Maturity Subgroup:

☐ Please enter a value from 0 - 9

## B. DISEASE REACTIONS

0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Tolerant

### Bacterial

☐ 0 Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

☐ 0 Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

☐ 0 Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

Fungal

200300169

Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leaf Spot (*Cercospora sojina* Hara)

race 1  
 race 5

race 2  
 race 6

race 3  race 4  
 Other (Please Specify) South Indiana field test

Target Spot (*Corynespora cassiicola* (Berk. & Curt.) Wei)

Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

<input type="text" value="0"/> race 1	<input type="text" value="0"/> race 8	<input type="text" value="0"/> race 15	<input type="text" value="0"/> race 22
<input type="text" value="1"/> race 2	<input type="text" value="0"/> race 9	<input type="text" value="0"/> race 16	<input type="text" value="0"/> race 23
<input type="text" value="0"/> race 3	<input type="text" value="0"/> race 10	<input type="text" value="0"/> race 17	<input type="text" value="0"/> race 24
<input type="text" value="1"/> race 4	<input type="text" value="0"/> race 11	<input type="text" value="0"/> race 18	<input type="text" value="0"/> race 25
<input type="text" value="0"/> race 5	<input type="text" value="0"/> race 12	<input type="text" value="0"/> race 19	<input type="text" value="0"/> race 26
<input type="text" value="0"/> race 6	<input type="text" value="0"/> race 13	<input type="text" value="0"/> race 20	<input type="text" value="1"/> Other (Please Specify)
<input type="text" value="1"/> race 7	<input type="text" value="0"/> race 14	<input type="text" value="0"/> race 21	<u>race 33</u>

Bud Blight (Tobacco Ringspot Virus)

Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (Continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

200300169

Cowpea Mosaic (Cowpea Chlorotic Virus)

Pod Mottle (Bean Pod Mottle Virus)

Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

<input type="text" value="0"/> race 1	<input type="text" value="0"/> race 4	<input type="text" value="0"/> race 9
<input type="text" value="0"/> race 2	<input type="text" value="0"/> race 5	<input type="text" value="1"/> race 14
<input type="text" value="1"/> race 3	<input type="text" value="0"/> race 6	<input type="text" value="0"/> Other (Please Specify) _____

Lance Nematode (*Hoplolaimus columbus* Sher)

Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

Reniform Nematode (*Rotylenchus reniformis* Linwood & Olivera)

Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

Other Nematode (Please Specify) \_\_\_\_\_

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Iron Chlorosis on Calcareous Soil

Phosphorus  Other (Please Specify) \_\_\_\_\_

Boron

Aluminum

Salt

Drought

**D. INSECT REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

Mexican Bean Beetle (*Epilachna varivestis* Mulsant)Potato Leaf Hopper (*Empoasca fabae* (Harris))

Other (Please Specify) \_\_\_\_\_

**E. HERBICIDE REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

Metribuzin

Bentazone

Sulfonylurea

Glyphosate

Glufosinate

Pendimethalin

Other (Please Specify) \_\_\_\_\_

**F. TRANSGENIC COMPOSITION**

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests\*. Use additional pages if necessary.

☐

YES

☒

NO

1. Please state the vector's name:

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the subject variety:

4. Please describe the insertion protocol:

\* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

**G. BIOCHEMICAL MARKERS**

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

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**H. COMMENTS**

103 107 30 11 11

0000 11 11

The United States Department of Agriculture  
Agricultural Research Service  
Washington, D.C. 20250

NOTICE OF RELEASE OF MOON CAKE VEGETABLE SOYBEAN

The U.S. Department of Agriculture, Agricultural Research Service announces the release of a new vegetable soybean cultivar named Moon Cake. Moon Cake is a large-seeded cultivar of exceptionally tall height and good lodging resistance intended for use as edamame (large seed vegetable soybean). Under good growing conditions, plants of Moon Cake grow to a height of 6 feet. Moon Cake is expected to prove especially valuable to organic vegetable soybean producers since its tall growth should enable it to compete well against late summer weeds. Plants of Moon Cake may serve a dual use in small scale diversified farming operations. Following harvest of pods from the plants, leaves and stems may provide high protein forage for livestock such as goats, sheep, etc. Moon Cake was not developed by genetic engineering.

Moon Cake is an F4-derived line from the cross OR5-12-1T X Disoy. The F2, F3, and F4 progeny of this cross were subject to selection for large seed size, tall plant growth, and lodging resistance at Beltsville, MD in 1997, 1998, and 1999. OR5-12-1T is a tawny pubescent sister line of the forage soybean Tyrone. OR5-12-1T is an F4 derived line from the cross PA4-11g1 X Ripley. PA4-11g1 was developed from the four-way cross [Wilson 6 X Forrest] X [Perry X L76-0253]. Progeny from this cross were subjected to selection for forage type at State College, PA in 1982 and 1984 and at Beltsville, MD in 1983 and 1985. L76-0253 is an F6 segregate of the cross Williams x PI229358.

Moon Cake has been evaluated, under the experimental designation VG-3, for vegetable production at Beltsville, MD, and Petersburg, VA. In replicate trials at Beltsville, MD, plants of Moon Cake grew to an average of 164 cm in height. Plants of Moon Cake produced 21 seed bearing nodes with an average of 7 cm between nodes. Moon Cake is a Maturity Group V cultivar and matures earlier than Hutcheson and Essex. Forty days after initiation of flowering, the sucrose


1 concentration in seeds of Moon Cake averaged 101mg/g of sucrose  
2 in tests at Virginia State University at Petersburg, VA.

3  
4 Moon Cake has white flowers and gray pubescence. Seeds are  
5 elongate with lustrous yellow seed coats and light buff colored hila.  
6 Seeds weigh 27 g per 100 seeds. Moon Cake provided a yield of  
7 3,144 kg per hectare of dry grain in 2001 and 2,864 kg per hectare in  
8 2002 in a replicated plot test at Beltsville, MD.

9  
10 Disease and nematode reactions

11 In tests conducted at Jackson, TN, Moon Cake was susceptible to  
12 both race 3 and race 14 of the soybean cyst nematode. Moon Cake  
13 is resistant to frogeye leafspot incited by *Cercospora sojina*. It is  
14 susceptible to southern stem canker disease. Moon Cake is mildly  
15 susceptible to sudden death syndrome.

16  
17 Breeder's seed of Moon Cake will be maintained by the Sustainable  
18 Agricultural Systems Laboratory, Animal and Natural Resources  
19 Institute, USDA-ARS, Beltsville, MD. Seeds of Moon Cake will be  
20 deposited in the National Plant Germplasm System where they will be  
21 available for research purposes, including development and  
22 commercialization of new cultivars. Protection for Moon Cake will be  
23 sought under the Plant Variety Protection Act of 1994.

24  
25  
26  
27  
28 

29  
30 Administrator, Agricultural Research Service  
31 U.S. Department of Agriculture  
32  
33

1-28-03  
Date

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**

**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  U.S. Government as represented by the Secretary of Agriculture	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  VG-3	3. VARIETY NAME  Moon Cake
4. ADDRESS (Street and No., or P.O. Box, City, State and ZIP, and Country)  USDA, ARS Sustainable Agricultural Systems Laboratory Room 226, Bldg. 001, BARC-West 10300 Baltimore Ave., Beltsville, MD 20705-2350	5. TELEPHONE (include area code)  301-504-6375	6. FAX (include area code)  301-504-5320
7. PVPO NUMBER  200300169		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 8 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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